

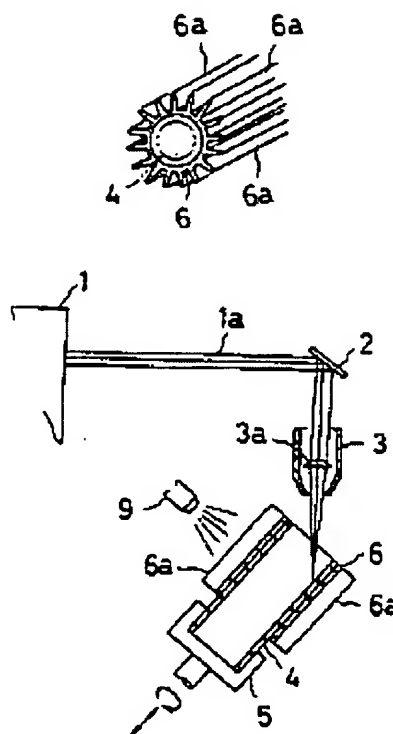
TREATMENT FOR HARDENING THIN-WALLED CYLINDER

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Abstract of JP60251222

PURPOSE:To harden sufficiently the inside peripheral surface of a thin-walled cylinder by sheathing closely a cylindrical radiator to the outside peripheral surface of the thin-walled cylinder and irradiating laser luminous flux to the inside peripheral surface of the thin-walled cylinder. **CONSTITUTION:**First, a radiator 6 is closely sheathed to the outside peripheral surface of a thin-walled cylinder 4 and the radiator 6 is constituted of material excellent in heat conduction such as aluminum and copper and plural sheets of radiating fins 6a are provided to the outside peripheral surface in the axial direction. The thin-walled cylinder 4 is held by a holding jig 5 to be rotated and driven and the laser beam 1a emitted from a laser oscillator 1 is irradiated on the inside peripheral surface of the thin-walled cylinder 4 via a transmission mirror 2 and a condenser lens 3a. At this time, a cooling medium is blown against the radiator 6 with a nozzle 9 and thereby the cooling of the thin-wall cylinder 4 is accelerated and the inside peripheral surface can be sufficiently hardened.



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